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BIOSOLIDS EXPERT PANEL

Health Subcommittee

Meeting Minutes

Date: October 24, 2007

Location: VA Dept. of Environmental Quality, Piedmont Regional Office, 4949-A Cox Road, Glen Allen, VA.

Panel Members Present:

- **Dr. Ralph O. Allen**, University of Virginia School of Medicine
- **Dr. Robert S. Call**, Medical practitioner
- **Dr. Susan Fischer Davis**, Virginia Department of Health
- **Dr. Greg Evanylo**, Virginia Tech Department of Crop and Soil Environmental Sciences
- **James Golden**, Virginia Department of Environmental Quality
- **Dr. Robert Hale**, Virginia Institute of Marine Science
- **Scott P. Johnson**, Virginia Department of Agriculture and Consumer Services
- **Dr. Howard Kator**, Virginia Institute of Marine Science
- **Dr. Mark Levine**, Virginia Department of Health, Henrico Health District
- **Christopher Peot**, Blue Plains
- **Henry Staudinger**, Citizen representative
- **Dr. Alan Rubin**, consultant (principal Envirostrategies, LLC)
- **Dr. R. Leonard Vance**, Virginia Commonwealth University School of Medicine

Supporting staff present:

- **Cindy M. Berndt**, Virginia Department of Environmental Quality
- **Robert Hicks**, Virginia Department of Health
- **Angela Neilan**, Virginia Department of Environmental Quality
- **Susan Sherertz**, Virginia Department of Health
- **Neil Zahradka**, Virginia Department of Environmental Quality

Introduction

Neil Zahradka with the Department of Environmental Quality brought the meeting to order at 1:00 p.m.

- noted that neither Jeff Corbin, Assistant Secretary of Natural Resources nor Gail Jaspen, Deputy Secretary of Health and Human Resources would be able to attend today's meeting.

- introduced Angela Neilan as the meeting's facilitator.

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- announced that there would be a public comment period at the end of today's meeting and asked members of public present to sign in.

Angela Neilan (Facilitator) followed by reviewing the meeting purpose 'to identify the scope and working structure for the Health Subcommittee as established by the Expert Panel on Biosolids (House Joint Resolution No. 694)' and by reviewing the agenda and the questions contained in the resolution.

The Facilitator began the workgroup discussion with the agenda's 3rd item – Determining the Subcommittee Structure for the Next Year, as well as what should be in this year's report due at the end of November. She asked the workgroup to focus on the following questions from the resolution and determine how the subcommittee should be organized to accomplish the tasks.

- Are citizen-reported health symptoms associated with the land application of biosolids?
- Do odors from biosolids impact human health and well-being and property values?
- To what degree do biosolids-associated contaminants accumulate in food (plant crops and livestock)?
- Evaluate the toxic potential of biosolid constituents derived from land application to humans, agricultural products, soil organisms, and wildlife.

She informed the subcommittee that the Environmental Subcommittee would be tasked with the following two questions:

- To what degree do biosolids-associated contaminants affect water quality?
- What are the effects of an accumulation of biosolids-associated contaminants in wildlife?

Mr. Peot asked if the first set of questions are just for this subcommittee. The Facilitator suggested to the subcommittee that they complete the basic questions first and specifics, such as technology issues, later. Dr. Rubin commented that all sewage sludge handling technologies have their positive aspects as well as each has potential human health and environmental impacts and those impacts need to be considered before any particular technology is endorsed. There was no opposition to the Facilitator's suggestion.

There was general agreement with the meeting's agenda.

Facilitated Panel Discussion

The Facilitator asked how the subcommittee wanted to conduct its business. Should it use consensus (DEQ's working definition is 'everyone can live with the decision'), insist on full agreement on its report, or develop a majority and minority report? Dr. Evanylo commented that the subcommittee should decide on this question at the beginning of its

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work. Dr. Vance suggested that the decision be data driven. General discussion followed and the Facilitator offered to return to the question later.

The subcommittee discussed how often it wished to meet face to face and whether other forms of meeting, such as videoconferencing or teleconferencing, would be acceptable. Face to face meetings were preferred with the option of supplementing those meetings with other types, as long as they met the Freedom of Information Act requirements. A conference telephone was requested to be provided, in case an emergency arose and the member wanted to join the subcommittee by telephone. Staff indicated that they would attempt to provide such a telephone line.

The subcommittee agreed to meet on the fourth Wednesday of January, April, July, and October for a total of four face to face meetings, preferably two in Richmond at the DEQ Piedmont Regional Office and two at the Department of Forestry office in Charlottesville. Staff will check the availability on the following dates at these two locations. The meeting dates are January 23, 2008, April 23, 2008, July 23, 2008, and October 22, 2008, beginning at 1 p.m. and ending at 4 p.m.

It was suggested that the Environmental Subcommittee should be approached to meet the same meeting dates listed above. The Environmental Subcommittee has scheduled their next meeting in December.

The Facilitator asked if the Health Subcommittee wanted to establish a chairman. Neil Zahradka and James Golden discussed the role of DEQ in supporting the committee's work: DEQ will assist in preparing the agenda, but it will be based on the committee's direction. The Facilitator also expressed her role as a neutral facilitator and will follow the direction of the committee.

Facilitator stated an email list will be developed.

Dr. Rubin asked when minutes of the subcommittee meetings will be posted. Members should be able to review the minutes to keep up with the decisions reached at the meetings. He also felt it is important so that the public can review the work of the subcommittees.

Mr. Zahradka reported that minutes will be posted in accordance with the 10 day requirement of the Freedom of Information Act.

Mr. Peot offered for the members to observe some actual sites where biosolids are being land applied. There was general interest and agreement that the full committee should be provided this opportunity to observe some of the different materials and methods used in land application and the offer should be discussed in full committee.

Facilitator asked if members had visited the DEQ website, where the information on the panel's and subcommittees' work is and will be posted. Most members indicated that they had. The Facilitator urged them to regularly check the website.

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The Facilitator performed a content analysis, a mining of ideas through conversation threads noted at the first meeting of the Biosolids Expert Panel held on September 18, 2007. This provides connectivity from the first meeting to this subcommittee meeting. The threading of these ideas may assist the committee in developing their priorities and follows:

At the full panel meeting on September 18, 2007:

- Dr. Vance suggested two subcommittees be formed one addressing the environmental issues and the other addressing the health issues. This was accepted resulting in the formation and meeting of the two subcommittees.
- Dr. Kator said we need an inventory of what is in biosolids and that sparked a larger discussion of whether or not the inventory is different from 20 years ago. Dr. Evanylo stated that it's not that different, and Dr. Hale said that the composition is unknown. The discussion expanded into what constituents need to be tested, and since we can't test for all the constituents, there are indicators, such as fish and wildlife indicators as well as chemical compounds like flame retardants in fish tissue.
- Dr. Jonathon Sleeman suggested that outside experts be invited to speak before the panel.
- Dr. Levine stated that panel should try to demonstrate an association between the land application of biosolids and health symptoms.
- Dr. Evanylo said that we need to look at community impacts, not just individuals' health impact and that should be addressed as well.
- Mr. Fox asked if existing rules had been followed under the Health Department and what is the history of enforcement actions.
- Dr. Rubin said the impact of animal waste should be included.
- Mr. Peot said they were working on a Water Environment Research Federation (WERF) survey to identify people who allegedly have become ill from biosolids. The survey instrument was being developed and the panel might want to follow up on it.
- Dr. Call reminded the panel to get the facts and not to speculate.
- Dr. Allen had some ideas on how we might get additional research to get some of the facts.
- Dr. Rubin said that even if some constituents are found in biosolids it doesn't mean it is a risk to humans or the environment.
- Mr. Johnson said we need to gather all possible information, not make recommendations, but we were looking at situation analysis or what is the current lay of the land? And we'll worry about recommendations later. Technology and recommendations should be addressed a little bit later in the process.
- Dr. Allen said that information from the panel's literature review needs to be posted on DEQ website.
- Dr. Allen said and Dr. Rubin said, what about the aerosols aspect of the biosolids?
- Dr. Call asked about the enforcement of wind velocity and whether there is monitoring of the wind velocity.

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- There was a general discussion of setback buffers and monitoring.
- Dr. Evanylo said afterwards technology should be addressed.

The above represents the Facilitator's threaded discussion of that meeting to be used by the subcommittee as a starting point in today's meeting.

There was a general discussion about if the subcommittee would be making recommendations or just doing situation analysis. There was general agreement that recommendations as to policy or regulatory change must be a deliverable of the panel's work. However, the recommendations would come later after the panel had studied each topic. In some cases, the recommendation might identify an information gap which would necessitate more study. This issue should be addressed by the full panel.

The Facilitator suggested that the research model, where you have your findings and then you develop recommendations, be used by the subcommittee.

Mr. Peot mentioned that the Environmental Subcommittee agreed to share information about what has been done and then consolidate the information in a bibliography type document. There was general agreement that the Health Subcommittee should do the same. Dr. Davis mentioned a white paper was being finalized by the Department of Health on the health effects of biosolids use and might serve as a good start for the subcommittee. DEQ will place it on the website when it is finalized.

Mr. Zahradka asked in order to avoid excessive mailing costs that when subcommittee members wanted to share information with the other members, then the information should be brought to the other members at the next meeting. Some members indicated their files were electronic and are willing to share with DEQ to post on their websites. The discussion shifted to the massive amounts of information which is available, but many studies and publications have not been consolidated such that it would be useful to the members in addressing the specific questions before them. There was further discussion of a few reports where other localities have attempted to accomplish what HJR 694 has directed be done. There was general agreement that given the number of potential information sources that the time necessary to consolidate them would be overwhelming.

The Facilitator introduced Dr. Allen about a proposal to provide additional resources to the subcommittee. As a teacher of an environmental health course, part of the public health program at UVa and for this semester it happens to be mostly medical doctors (ten) with varying levels of backgrounds and experience. If there is a quick project for them to work on he would be happy to assign it to them. After some general discussion, Dr. Levine suggested that the physicians compile the stories of the people who have been affected by the land application of biosolids. This compilation would help the subcommittee address the first question in the resolution. Dr. Levine stated that finding these people would not be difficult given the public in attendance, because of the networks maintained by them. Dr. Vance is also teaching the same course at VCU and has about 10 physicians as students who could also be assigned to conduct interviews.

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There was general agreement to take on this task. Further discussion concerned the appropriate interview protocols to be followed where sufficient documentation is captured. Dr. Levine offered to review the protocols. Mr. Peot offered a protocol currently being finalized by the Water Environment Research Foundation, funded by the industry. However, the protocol has not been approved for release. Concerns about the timely release and use of the survey tool by the UVa and VCU physicians were discussed. Mr. Peot will inquire if the survey tool can be released so that the interviews can be conducted by the physicians as part of the graduate public health studies.

There was general agreement that this task (Systematic documentation and Evaluation of citizen-reported health symptoms associated with the land application of biosolids) was a priority task to begin, although the physicians (students) might not be able to complete the evaluation by end of the academic semester.

A sub-workgroup, Health Stories Workgroup – Collecting Health Complaints, was created to address this priority. Members include Allen, Levine, Davis, Peot, Rubin, Vance, and Staudinger.

Dr. Hale raised the issue of relating where the citizens were exposed to the farms where application occurred and the source of the biosolids. Dr. Rubin wants to focus on whether the land application has created a health impact. With adequate documentation the sources can be identified. Dr. Allen and Dr. Vance will work on the reporting method and will use the survey tool offered by Mr. Peot if it is made available soon.

The Facilitator moved to the odor question. There was discussion that the odor question will be a subset of the health impacts in the first question. The remainder of the question on the impact of odors on property values needs to be addressed. The health subcommittee may not be the appropriate group to address property values, a subject for real estate experts.

The odor will be covered in case studies, documentation, etc. As far as it relates to property values, it may be out of scope for the health subcommittee; it may be further evaluated in the context of the different technologies, and may be also handled by the environmental subcommittee. It was suggested a literature review might be appropriate. There was general agreement that health issues, including acute and chronic manifestations, should take priority and should be the top priority for the health subcommittee. The other aspects, mental health, depression, relocating, economic issues, are lesser priorities for the health subcommittee.

Dr. Hale and Mr. Staudinger stated they wanted to work on the impact of land application of biosolids on property value as a subgroup and report back to the Health Subcommittee.

Break

The committee recessed for 5 minutes.

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Freedom of Information Act Presentation

The committee reconvened for the Freedom of Information Act (FOIA) overview by Cindy Berndt, regulatory coordinator for the DEQ. A PowerPoint presentation on the Freedom of Information Act (FOIA) was given at the full panel meeting in September, and she was asked to be available to the subcommittee to answer questions. She emphasized the following:

All your business has to be conducted in the open. There are some exceptions to public meeting requirements in FOIA, but those exceptions do not pertain to this group or the sub groups.

Minutes have to be taken and they have to be posted.

As far as finding out what happened at a meeting that a member could not attend, the member may view the meeting minutes on the Virginia Regulatory Town Hall or DEQ website.

E-mails are considered public documents under FOIA. E-mailing one on one to each other is perfectly fine without having any kind of public notice requirements. When sending an e-mail to all members, it is very important that upon receipt nobody ever hits 'reply all', because then you are starting to cross the line into conducting business and you have not given notice of a public meeting. So you can use email for one on one e-mailing to each other and that is the limit as to what you can do with e-mail.

The conference call can be difficult in regards to FOIA. DEQ can work with the subcommittee on using teleconferencing; however, there must be a quorum of the subcommittee at a physical location which has been properly noticed under FOIA and open to the public. The location of the callers to the teleconference must also be noticed under FOIA and available to the public and have speaker phone capability. Notice usually means 7 days in advance.

The panel is a public body, the subgroup is a public body, and if you break out into groups in this group, they become their own public bodies, and it keeps going until there is only one person, one person of the group and the requirements of FOIA apply. However, you can talk one on one – but that is the limit.

The Virginia FOIA Advisory Council website with its 'frequently asked questions' was mentioned as a resource.

For violations of FOIA, individuals are personally liable and penalties range from \$250 to \$1000. All the noticing requirements are handled by DEQ and the members need to be careful in their individual communications.

This concluded Ms. Berndt's presentation.

Facilitated Panel Discussion

Facilitator asked the subcommittee to focus on question three in HJR 694 - To what degree do biosolids-associated contaminants accumulate in food (plant crops and livestock)? Dr. Rubin stated that this area is what his major task was while he was at EPA, specifically assessing the risks of 10 heavy metals and a suite of organic chemicals and has a significant body of information. Documents are available on the EPA and WEF website. Dr. Hale agreed that this is a fairly quantitative question and subcommittee should consider new information on some of the new pathogens and chemicals.

Should this question be handled by the Health Subcommittee or the Full Panel?

Mr. Peot indicated in response to the Environmental Subcommittee that he is drafting a letter for Mr. Corbin requesting generators to provide to the panel analytical information on what is contained in the biosolids which they have tested. Generators are not required to test the biosolids for hazardous materials; however, they can declare the biosolids non-hazardous based on other information (i.e., pretreatment program, etc.). Mr. Peot reported that Blue Plains conducts the Toxicity Characteristic Leaching Procedure (TCLP) test, in case the biosolids are deposited in a landfill, where such testing is required.

Dr. Kator wanted clarification on the definition of contaminants and that will need to be addressed by the full panel. His point was definition should not exclude pathogenic and other micro-organisms and only include indicator organisms.

Dr. Evanylo was concerned the question above was not posed correctly by only asking if contaminants accumulate and did not ask if they did what was the risk. Dr. Vance suggested that the Environmental Subcommittee address the quantitative and qualitative aspects of bioaccumulation, and then the Health Subcommittee could address that data in terms of risk. There was general discussion that answering the question that was not asked (what is the risk) is a lower priority and might be one that requires further study following the completion of the HJR 694 final report. There are significant costs to answer the risk questions.

Facilitator asked if anyone is interested in looking at the bioaccumulation and biomagnification topics. The discussion led to a general agreement on determining what recent literature is available on the topic of bioaccumulation in the food chain. Between now and the next meeting (January) a subgroup of Drs. Kator, Evanylo, and Hale will identify what literature is available.

Mr. Staudinger raised another topic of interest of establishing meaningful buffers to protect people so that they are not exposed. Dr. Rubin supported this as number two in priority. Further clarification suggested that this topic was more than buffers, but also included procedures to assure re-application of biosolids does not result in re-exposure. Dr. Levine commented that the current regulatory process does not factor in community

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involvement and does not incorporate community information into the permitting process because the regulations do not require it and the report to the General Assembly should comment on that critical issue.

The Facilitator wanted for each member to present any other important issue before moving to the public comment period.

Dr. Allen wanted to include aerosols. Dr. Kator agreed and added endotoxins to the issue list. Dr. Hale wanted to add odors to the issue list.

Dr. Allen wanted his and Dr. Vance's email addresses publicized on the website so persons with health problems can contact them. Mr. Zahradka noted that a specific protocol as to what is or isn't posted on the website is being developed, but if a panel member has a specific request to let him know. He will also appreciate list of citizen advocates and key contacts. Mr. Zahradka commented that for the Health Subcommittee report to the Full Panel, DEQ staff will prepare minutes of today's meaning and compile a list of bullets suggested by the Health Subcommittee for inclusion in the Full Panel's report to the General Assembly.

Public Comment:

The Facilitator opened the floor for public comment:

1. Janice Buckholz from Prince Edward County, Virginia indicated that she became ill three years ago after biosolids was applied all around where she lives. She represented to the panel that she had been treated badly during the last three years. She read a letter from Cal Sawyer to Mark Levine and Mr. Hicks regarding a proposed biosolids land application site near her home. She indicated that in this letter Cal Sawyer noted there was no reason not to apply biosolids if it was at least one mile from her home. She also described a conversation she had with EPA staff in Washington regarding buffer distances. She then presented a verbal account of her medical condition, including lab test results, before and after biosolids were applied near her home. She asked that the medical doctors take notes. She also gave an account of medical costs she has incurred. She indicated that while she is not a scientist, she has been researching Virginia laws that apply to her, and will one day demand justice.

The Facilitator asked if Mrs. Buckholz would be willing to be a case study for the panel, and Mrs. Buckholz agreed should they request it.

2. Mary Graf from Campbell County, Virginia asked if more details of the public comments could be included in the public comments than were posted with the Full Panel minutes. She asked if the electronic documents that were to be posted on the DEQ website, if voluminous, could be consolidated for easier review.

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In response to Mary Graf's questions, Mr. Zahradka stated that it is the intention of DEQ staff to include the audio file of the public comment period at the September 18, 2007 meeting of the full panel on the website. However, there were some technical difficulties and they are being addressed. It is also the intention of DEQ staff to organize the website information such that it is easily navigated.

The public comment period was concluded.

Mr. Zahradka distributed 9 copies of a copyrighted CD, title "Sludge Diet", to the panel members for their viewing. The videos were loaned to the Subcommittee by Mary Carwile and she requests the CDs be returned.

In addition, Mr. Zahradka distributed two documents provided by Mr. Peot:

- 1) *Health Aspects of Biosolids Land Application*, (table of contents only), prepared for the City of Ottawa, March 2002, prepared under the direction of the Medical Officer of Health by Erik Apedaile, P.Ag., CH2M Hill Canada Limited, and Dr. Donald Cole, M.D.;
- 2) *Safety and Benefits of Biosolids*, University of Missouri Extension, Ken Arnold, Robert Magai, Richard Hoormann, Randall Miles.

Mr. Peot noted that he would provide electronic copies of these documents as well.

Angela Neilan adjourned the meeting at 4:15 PM.